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INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION

Report of the Secretary-General

Addendum

As announced in the report of the Secretary-General on the International Decade for Natural Disaster Reduction (A/46/266), this addendum contains up-to-date information on activities being implemented in the context of the Decade and also presents to the General Assembly the New York Declaration of the Special High-Level Council and the first annual report of the Scientific and Technical Committee on the Decade, called for in Assembly resolution 44/236.

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I. INTRODUCTION

1. In addition to the information contained in the main report on the International Decade for Natural Disaster Reduction (A/46/266), several important developments have taken place in recent months. The Secretary-General has completed the establishment of the international mechanism that had been envisaged in General Assembly resolution 44/236 with the creation of the Special High-Level Council. The Scientific and Technical Committee has held its second session of 1991 and has developed overall programmes for the Decade as requested by the General Assembly. The implementation of disaster-reduction activities, which have been initiated as a result of the launching of the Decade, has begun in some cases. A number of weaknesses have also been identified and the attention of the General Assembly, in conclusion, is called to several important points.

II. INTERNATIONAL FRAMEWORK OF ACTION FOR THE DECADE

A. The Special High-Level Council

2. The Special High-Level Council held its inaugural meeting at United Nations Headquarters on 9 and 10 October 1991 to coincide with the celebration of the International Day for Natural Disaster Reduction. The Council's membership comprises Prime Minister M. Eugenia Charles of Dominica, H.R.H. Princess Chulabhorn Mahidol of Thailand, former Prime Minister Takeo Fukuda of Japan, former President Miguel de la Madrid Hurtado of Mexico, Mrs. Suzanne Mubarek of the Arab Republic of Egypt, Mr. Idé Oumarou of Niger, Mrs. Lisbet Palme of Sweden, Mrs. Marilyn Quayle of the United States of America, Mr. Janez Stanovnik of Yugoslavia and Academician M. Ch. Zalikhanov of the Soviet Union. It is expected that these distinguished leaders will contribute greatly to the promotion of public awareness and to the mobilization of much-needed public and private support for the reduction of international and national vulnerability to natural disasters. The inaugural meeting, which was made possible thanks to the financial support of Japan, underlined the potential gains in disaster mitigation that can be brought about if this issue reaches a level of visibility commensurate with the impact of the loss of lives and the material damage caused by disasters. To this end, the Special High-Level Council has adopted, as the outcome of its first meeting, the New York Declaration of 10 October 1991, which is presented as annex I.

B. The Scientific and Technical Committee

3. On the basis of the review by the Scientific and Technical Committee of national activities and needs and of international scientific and technical undertakings designed to reduce losses from natural disasters, six actions are proposed by the Committee for consideration by the General Assembly. These appear in paragraph 6 of the executive summary of the first annual report of

the Committee which is contained in annex II below. The Committee developed overall programmes for the Decade comprising targets for progress in disaster mitigation, the programme framework, review of national gaps and priorities and a number of illustrative projects.

C. National disaster-mitigation measures

4. The importance of the policy measures for disaster reduction to be taken at the national level was emphasized by the Assembly in resolution 44/236 and has since been confirmed by impressive developments in the establishment of national committees or focal points for the Decade, about 100 to date, and by the disaster-mitigation measures and projects that have been proposed or are being developed and implemented in concerned countries. Some of them are quite innovative and provide good examples of the transfer and application to disaster mitigation of advanced scientific knowledge and technological know-how that constitute the central concept of the Decade.

5. National committees responded with strong interest to the opportunity provided by the regional meeting of Latin American countries, organized by the World Health Organization and the Pan American Health Organization. In this light, further regional and subregional meetings should be encouraged and should also be an important part of the preparatory process for a world conference of national committees for the Decade, which had already been envisaged by the International Ad Hoc Group of Experts on the Decade (see A/44/322/Add.1) and which the Committee now recommends. The Secretary-General considers that such a world meeting of national committees, if well prepared, could achieve the broad intersectoral participation which is a characteristic feature of the the Decade, and could be an event of great importance to assess the progress made in disaster-mitigation policies and activities. It could also provide important information in the context of the mid-term review of the Decade, which the Assembly has scheduled for 1994.

III. FINANCIAL AND ADMINISTRATIVE ASPECTS

6. The Decade secretariat is currently composed of two full-time Professional and two General Service staff members, who have been assisted by short-term consultants for the preparations for the Special High-Level Council and Scientific and Technical Committee meetings. All have been supported by voluntary contributions. It is expected that an economist will join the staff towards the end of the year, and discussions are under way with potential donors to contribute to essential work to be undertaken in support of national committees and to provide an expert in earthquake engineering to work on substantive aspects of programme development.

7. Concerning the Trust Fund for the Decade, the Secretary-General reiterates that urgent action is needed if the bodies making up the international mechanism of the Decade are to function in a regular manner, which is essential if the important activities of the Decade are to continue

as envisaged by the Assembly. For instance, the meetings of the Scientific and Technical Committee and the Special High-Level Council have been made possible by ad hoc grants from Germany and Japan. It is evident that activities can be planned and executed on a well-organized basis only if sufficient resources are made available in a timely and sustained manner.

ANNEX I

10 October 1991

Dear Mr. Secretary-General,

I have the honour of transmitting to you the New York Declaration which was adopted by the Special High-Level Council of the International Decade for Natural Disaster Reduction at its inaugural session (9-10 October 1991).

On behalf of the Council, I request that this Declaration be brought to the attention of the General Assembly, in view of the forthcoming discussion on the Decade.

I would also like to express the Council's and my personal appreciation for the support you have extended to us on this occasion.

Please accept, Mr. Secretary-General, my highest consideration.

(Signed) Miguel de la MADRID HURTADO
Chairman
Special High-Level Council for
the International Decade for
Natural Disaster Reduction

Mr. Javier Pérez de Cuéllar
Secretary-General
United Nations
New York

APPENDIX

New York Declaration of the Special High-Level Council

The Special High-Level Council of the International Decade for Natural Disaster Reduction held its inaugural session at United Nations Headquarters in New York on 9 and 10 October 1991 to undertake its role to advise the Secretary-General, promote awareness and mobilize resources for the Decade.

The Council considered that:

Whereas the peoples and countries of the world are afflicted by recurring natural disasters that cause enormous loss of life, set back economic and social development, and affect the political stability of nations;

Whereas the scientific, technical educational, social and political resources exist to greatly reduce the human and economic losses from natural disasters and have been successfully applied in some countries;

Whereas many countries that have not implemented natural disaster-mitigation measures are beginning to take steps to reduce their vulnerability under the auspices of the International Decade for Natural Disaster Reduction; and

Whereas the Special High-Level Council for the Decade has been appointed by the Secretary-General at the request of the General Assembly to advise on actions to mitigate the impacts of natural disasters;

The Council concluded that:

Proclamation of the International Decade for Natural Disaster Reduction offers an extraordinary opportunity to reduce the impact of natural disasters, provided that the possibility to confront hazards through enhanced awareness, preparedness and preventive actions is recognized world wide and adequate resources are directed towards this goal.

Reducing vulnerability to natural disasters is a major goal requiring concerted and coordinated efforts of Governments, the organizations of the United Nations system, the world's scientific and technical community, volunteer organizations, schools and educational institutions, the private sector, the media and individuals at risk. Vulernability assessment and early warning of potential disasters and effective communication to the public are essential.

Developing countries and highly vulnerable groups, especially children, should be given the greatest priority in disaster-mitigation activities, including actions to address the psychological effects of disasters. Among the means for accomplishing this goal are locating and constructing housing, infrastructure, schools and hospitals to avoid and resist hazards, educating

students for self-protection and using the media to reach the vulnerable population.

Mitigation actions related to natural disasters should be linked with similar actions in dealing with man-made and environmental disasters.

The Council called upon:

All current and potential participants in disaster-mitigation efforts, including resources from academia, volunteer organizations, and commerce and industry, as well as Governments, to contribute to reducing disaster vulnerability.

Countries to form national committees for the Decade, including high-level representatives of planning and development agencies, scientific and technical groups, volunteer organizations, the private sector, and the media; and to provide committees with the means to stimulate and coordinate national disaster-mitigation activities.

All countries to recognize the importance of incorporating natural disaster activities within plans to achieve sustainable development and to undertake actions to reduce vulnerabilities through the application of disaster-mitigation strategies. This policy should be brought to the attention of the United Nations Conference on Environment and Development, to be held in June 1992.

The national, regional and international developmental and financial organizations, as well as the private sector and the media, to give high priority to requests for assistance in reducing natural disaster vulnerabilities.

Countries having disaster-mitigation resources to aid those needing assistance by strengthening local and national capabilities, developing human resources and supporting the institutions of the Decade, particularly by providing the resources necessary to support the functions of the Decade secretariat and to make possible the information and public awareness activities of the Decade.

The Council decided to:

Endorse the work of the Scientific and Technical Committee, particularly the outcome of its Guatemala meeting as reflected in its first annual report to the Secretary-General, including the targets identified for the Decade.

Pursue the full involvement of private and public business sectors in view of their inherent vitality and potential for reducing the impact on the socio-economic systems of vulnerable countries by limiting the disruption of productive activities and accelerating the restoration of essential services and the generation of income for the affected population, particularly for developing countries.

Suggest that the General Assembly endorse bringing together representatives of national committees in a world conference on natural disaster reduction in 1994, which would contribute to the mid-term review of the Decade.

Meet at least annually to vigorously pursue its responsibilities for the Decade, and at its next session to focus on improvement of capabilities at the national level, particularly human resources, increased involvement of the media and the private sector, development of incentives for natural disaster mitigation and international coordination.

Undertake individual activities on behalf of the Decade at the regional, subregional and national levels, particularly in increasing public awareness of natural hazards and in mobilizing resources and stimulating political support for disaster-mitigation strategies.

ANNEX II

First annual report of the Scientific and Technical Committee to the Secretary-General

SUMMARY

1. In its resolution 44/236 of 1989, the General Assembly called attention to the losses from natural disasters and proclaimed the International Decade for Natural Disaster Reduction to respond to an issue of rapidly growing significance to the peoples and countries of the world. The importance of this initiative was again tragically demonstrated in 1990 and 1991, the first two years of the Decade, by the devastating effects of tropical cyclones, volcanic eruptions, earthquakes, droughts and desertification. In 1990 alone, natural disasters caused economic losses of $47 billion. "Loss burdens from natural disasters are increasingly dramatically: from the 1960s to the 1980s economic losses have virtually tripled, and insured losses have quintupled" (Munich Re-insurance Company). It is increasingly evident that for many countries the reduction of disaster losses is vital to sustainable development.

2. While many Governments and international organizations have long had programmes in disaster prevention, warning and preparedness, the Decade has been a successful means for stimulating more initiatives both nationally and internationally, and for mobilizing the scientific and technical community to concentrate on the topic.

3. The General Assembly charged the Scientific and Technical Committee on the Decade with developing overall programmes to reduce losses from natural disasters. To this end, the Committee herein recommends targets and a programme framework.

4. Recognizing that many of the disaster-mitigation actions are implemented by countries, the Assembly specifically requested that priorities and gaps in technical knowledge identified by national committees, which are the main mechanism for implementing the Decade, be taken into account in developing overall programmes.

5. In this regard, the Committee has determined that the most important Decade need is developing and strengthening national capacities to undertake mitigation strategies within the national development process that reduce the impact of natural hazards. It is recognized that some of these hazards are affected by human activities. Assistance is sought by countries, particularly to assess hazard vulnerabilities and to initiate and implement mitigation strategies.

6. Based on this assessment, the Committee recommends to the Secretary-General that he bring to the attention of the General Assembly the following six specific actions, which could lead to cutting the loss in lives from natural disasters by the end of this century to a fraction of its current

rate, and could establish a much improved basis for social and economic development:

(a) Endorse the targets adopted by the Committee for the Decade, which are:

By the year 2000 all countries, as part of their plan to achieve sustainable development, should have in place:

Comprehensive national assessments of risks from natural hazards, with these assessments taken into account in development plans.

Mitigation plans at national and/or local levels, involving long-term prevention and preparedness and community awareness.

Ready access to global, regional, national and local warning systems and broad dissemination of warnings.

(b) Recognize disaster prevention, warning and preparedness as integral parts of national planning for sustainable development. This concept should be explicitly recognized by the United Nations Conference on Environment and Development, to be held at Rio de Janeiro in June 1992.

(c) Encourage establishment of broadly based national committees in all countries without such bodies, and urge that these committees include representatives of agencies responsible for planning and economic development.

(d) Urge countries to contribute to disaster-reduction activities nationally and internationally, through bilateral and multilateral programmes, including the Trust Fund for the Decade. The activities of the Decade carried out by a small secretariat, the Scientific and Technical Committee and the Special High-Level Council have been supported up to now irregularly by special ear-marked contributions from a few donor countries. Sustained support is now essential as the information strategy and other activities of the Decade must be supported on a firm, continuing basis by a fund of $3 million per year for the remaining eight years. Requests for assistance from developing countries should be encouraged and donor countries should be urged to give priority attention to the requests.

(e) Encourage broad participation and support for a world conference of representatives of national committees and other participants in the Decade planned for 1994 as a key element in the mid-term review called for in resolution 44/236.

(f) Re-emphasize the importance of natural disasters in programmes of the United Nations system where appropriate, for example, in development and environment programmes. Funds to support national projects, the work of the national committees and international scientific and technical projects could be obtained through relatively modest shifts in development assistance,

allocations from existing environmental and related funds, such as the Global Environmental Facility, and budgets of national and international agencies.

7. The General Assembly may wish to consider adopting a resolution or resolutions concerning these matters.

8. To accomplish the objective and goals of the Decade, the Committee has adopted a programme framework of seven strategies, as follows: (a) identification of hazard zones and hazard assessment; (b) vulnerability and risk assessment, cost/benefit analysis; (c) awareness at level of decision and policy makers; (d) monitoring, prediction and warning; (e) long-term preventive measures; (f) short-term protective measures and preparedness; and (g) early intervention measures. These activities require supporting actions in five associated areas: (a) education and training of local and national specialists; (b) public education and information; (c) transfer of appropriate technology; (d) application of proven technology; and (e) formulation and adoption of appropriate policies.

9. In the implementation of these strategies, the Committee has assigned highest priority to support for national committees, in part through provision of technical and other information, through regional meetings, activities and centres and through the preparation of a world conference. Of particular importance is the development of human resources at the national level in developing countries. Additional priorities of the Committee for 1992-1993 follow in the introduction.

I. INTRODUCTION

10. The major natural disasters of the first two years of the Decade - the earthquake in Iran, the tropical cyclone in Bangladesh, with its enormous loss of life, the extra-tropical cyclones in Europe, the volcanic eruptions in the Philippines and Japan, and the floods in China, plus the destructive earthquake in Guatemala during the second session of the Scientific and Technical Committee - again demonstrate the vulnerability that many countries face to natural disasters.

11. In 1990, natural disasters caused economic losses $US 47 billion. In the last 20 years, natural disasters have cost the lives of some 3 million people and affected at least 800 million human beings. Repeatedly, hard-won economic development is set back years by natural hazards, such as earthquakes, windstorms, floods, droughts and desertification, the occurrences and effects of which can generally be anticipated. Yet, the scientific and technical means exist to reduce these awful losses substantially. Such is the message and the mandate of the Decade.

12. Disaster prevention and preparedness is an essential part of sustainable development. It is wasteful not to integrate disaster preparedness into development planning. Prevention of disasters together with preparedness not

only minimizes damage but promotes a stable environment, incentives for investment and enterprises, and the sense that people can control their own economic destiny - factors crucial for sustainable long-term development.

13. The Decade was launched by General Assembly resolution 44/236 with the objective "to reduce through concerted international action, especially in developing countries, the loss of life, property damage, and social and economic disruption caused by natural disasters, such as earthquakes, windstorms, tsunamis, floods, landslides, volcanic eruptions, wildfires, grasshopper and locust infestations, drought and desertification and other calamities of natural origin". In close relation to natural hazards, human actions not only cause many natural disasters, through activities such as deforestation, overgrazing, and careless use of fire, but also increase the vulnerability to damage through urbanization, population growth, and poor facility siting. Natural hazards addressed in the Decade are also closely related to environmental issues such as climate change, deforestation, air and water pollution, and biodiversity. Changing climate, for example, may well affect occurrence of future disasters such as inundations from rising sea level, and drought.

14. The first annual report of the Scientific and Technical Committee is an important one in that it establishes targets, a programme framework, an information strategy and criteria for project identification for the Decade. It also presents an overview of country priorities and gaps in technical knowledge, and identifies several international demonstration projects that exemplify the objective and goals of the Decade.

15. The recommendations in the present report were derived from a sequence of meetings and discussions that involved not only the members of the Committee, but also representatives of national committees, organizations in the United Nations system and non-governmental organizations. Some of the key events were a conference in Japan, September 1990; a planning meeting at Castelnuovo di Porto (Italy), November 1990; the first session of the Scientific and Technical Committee at Bonn, March 1991; the Interagency Working Group and Steering Committee meetings at Geneva, July 1991; and the Meeting of Latin American Countries on the Decade, 9-13 September 1991, and the second session of the Scientific and Technical Committee, 16-20 September 1991, both at Guatemala City.

16. Looking ahead, the Committee has selected several priorities for its efforts during 1992-1993, in addition to the highest priority of building national capabilities. They are to:

(a) Continue development of the overall programme of the Decade and encourage support for national and international projects;

(b) Implement the public information strategy;

(c) Identify and promote resources to support national and international disaster-mitigation activities within the Decade;

(d) Establish systems for quantitative measurement of progress and benefits in achieving the targets of the Decade;

(e) Assist in the development, compilation and dissemination of guidelines for comprehensive risk assessment and mapping methods;

(f) Contribute to the development of databases on natural disasters and on prevention, mitigation, warning and preparedness systems;

(g) Encourage advancement of scientific and technical research as a basis for mitigation actions and dissemination of research results;

(h) Identify additional channels and methods for further involving the scientific community and the private sector in realizing Decade goals, as specifically called for in resolution 44/236;

(i) Assist in preparing for the mid-term review of the Decade in 1994, including the world conference on natural disaster reduction.

II. LESSONS FROM RECENT DISASTERS

17. It is only by observing actual disasters, what they do to people, where and how, that one can design ways for reducing their effects. Each disaster brings a lesson, pointing to weaknesses in prevention or preparedness, suggesting improvements or serving as a test of present reduction measures. Hence, the importance of case studies.

18. Some recent natural disasters provide effective examples.

19. When the Pinatubo volcano awoke in the Philippines, it took 500 lives, while under more unfortunate circumstances it could have killed tens of thousands. This saving of lives was due to the use of adequate technology for monitoring the volcano, together with a warning and communication system which allowed for the evacuation of 80,000 persons directly threatened. The Pinatubo eruption was one of the largest this century and was unusual in that it coincided with the passage of a tropical cyclone. Because of prompt investigative actions by national and foreign scientists following the first signs of unrest, the types of activity and magnitude of the cataclysmic eruption were accurately predicted. The main lesson is that all potentially dangerous volcanoes, including long-dormant ones, should be properly investigated and monitored to ensure that future emergencies will be adequately foreseen and managed.

20. In the case of Mount Unzen in Japan, the protracted eruption process required sudden and repeated evacuations of the community, which tested the adaptability of the administrative system and the response of the population over an excruciatingly long period of time. It was seen that non-resident and newly settled people are especially vulnerable to the effects of disasters due to lack of knowledge of the local culture. Increasing urbanization could

aggravate such situations. These lessons will be useful for pre-disaster planning for other similar situations in the future, not only in Japan but also in other vulnerable areas.

21. In Bangladesh, the study of the recent tropical cyclone with floods from storm surge has indicated how credible warnings and education of the population, combined with the provision of accessible shelters in sufficient numbers, could have saved a large proportion of the estimated 200,000 deaths.

22. In China, exactly 60 years ago, over 1 million people were drowned in the Yellow River floods. This year's floods, affecting a highly populated area of 220 million people, damaged and collapsed some 9 million houses and caused direct economic losses of $2 billion to $16 billion, while the death toll amounted to 3,074. The reasons for this very low fatality rate should be carefully scrutinized, for it could shed light on the respective effectiveness of the various preventive and mitigation measures implemented beforehand. Information was presented to the Committee showing that in China a direct, quantifiable relation was found between flooding of farmland and farm production in succeeding years.

23. The continuing disasters resulting from drought and desertification in several areas reflect the inherent vulnerabilities of the societies in which they occur. To that extent, such disasters can best be prevented through adoption of long-term policies related to various aspects of development. While such a commitment may exist in some countries, the amount of resources and time required to significantly reduce these vulnerabilities is considerable. In the meantime, efforts should be linked with long-term disaster prevention programmes and disaster preparedness measures.

24. Preventive and mitigation measures are multidisciplinary by nature, from technological to social ones, and from antiseismic building and warning using satellite remote sensing to training for self-rescue and education of the community. These measures have to be combined according to the type of hazard and the vulnerability of the area. They should also be appropriate to the local political, cultural, economic, developmental and environmental context. Therefore, the Committee stresses the crucial importance of learning from past disasters in order to draw lessons for future disasters with respect to all aspects of a national socio-economic system.

25. The Committee emphasizes the value of reviewing post-disaster information, especially to examine the direct consequences of disasters on the population and on economic output. The Committee encourages statistical studies of these impacts and the quantification of their consequences on national economies. Altogether, review of disaster cases shows that efforts should be concentrated in: awareness - educating both the general public and the leadership community to the natural hazards that endanger them; taking action before disasters strike - reducing vulnerability through mitigation techniques, rather than focusing assistance on a post-disaster basis; cooperation - learning from successful mitigation activities throughout the world and applying these lessons learned in areas that are vulnerable to

similar hazards. Such an integrated approach - which may be called the ABC programme (Awareness Before disasters Cooperation) - will, over the Decade, significantly improve disaster resistance throughout the world.

26. As a final point, the Committee noted the compounding of economic consequences of disasters and the effects induced (direct and secondary losses) that could double or triple the overall costs of disasters. In addition, psychological effects increase the consequences of the disasters on socio-economic development by reducing working capacities, discouraging the spirit of enterprise and by reducing the coping ability of the affected population.

III. PRIORITIES AND GAPS IN TECHNICAL KNOWLEDGE IDENTIFIED AT THE NATIONAL LEVEL

27. Resolution 44/236 requested that the Committee develop overall programmes for the Decade, taking into account priorities and gaps in technical knowledge identified at the national level, particularly by national committees. Such priorities and gaps would provide guidance in multilateral and bilateral technical assistance programmes.

28. The Committee reviewed the submissions received from countries in response to a request from the secretariat. The nature of the replies covered a broad range, which reflects the diversity of vulnerabilities to natural hazards among countries and their progress in dealing with them. In some cases preparation of the submissions stimulated the designation of a national committee or focal point and the initiation of the Decade planning process. In other cases, countries that were already well under way provided comprehensive plans for their Decade activities.

29. The most important need identified at the national level was for the development and strengthening of capacities to undertake national mitigation strategies designed to reduce the impact of disasters. In this connection, there exists a critical need for additional human resources, which can only be developed through training programmes. The conference of Latin American countries on the Decade, held at Guatemala City from 9 to 13 September 1991, specifically identified lack of human resources as a major gap, and the development of such resources as a high priority for natural disaster reduction. Other countries such as Angola, China, Indonesia, Morocco, Mozambique, Thailand and Viet Nam cited as a priority, in their replies, the establishment of a national office or centre having the role and means to develop and implement a systematic disaster-reduction policy.

30. Another critical gap cited by several countries was assessment and mapping of those natural hazards from which a country has suffered in the past and the development of vulnerability scenarios for future events. Only a few developing countries have already accomplished this. Consultations are sought to assist in this regard.

31. Several other needs commonly mentioned were for:

(a) Information, education and training to facilitate planning, technology transfer and implementation;

(b) Improved monitoring and warning systems;

(c) Better application of mitigation measures, such as improved building codes and construction guides;

(d) Better preparedness plans;

(e) More resources to impement programme plans.

32. Altogether, many countries are ready to move ahead with implementation or programme plans, and others will soon be ready. Countries that have projects well under way are commended for their efforts. For example, the Philippines, Trinidad and Tobago, Turkey and the United States of America have developed comprehensive disaster-mitigation plans.

33. A complete listing of the countries that have provided information on their priorities and gaps to date is given in appendix II.

34. For some developing countries, assistance in identifying priorities and gaps is very much needed at this stage in the decade. It would be helpful, therefore, to promote bilateral and multilateral contacts to assist developing countries in participating and benefiting fully from the Decade. Conversely, some developed countries have indicated their availability to assist with the application of existing advanced technologies to disaster reduction. Such a linkage of interests could be facilitated by funds provided through the Trust Fund for the Decade, in addition to meeting the organizational needs for national planning efforts. Guidance material should be made available to developing countries for identifying and preparing national- and regional-level project proposals. The contribution of members of the Committee in this regard, where appropriate, could be most beneficial. In addition, the secretariat could facilitate this process by providing guidelines for setting up national committees, references to important policy documents, and brochures on various subjects, including learning from disasters.

35. As a starting-point for countries that still need to launch the process of developing a plan for the Decade, national committees should prepare basic disaster analyses that represent the greatest future risks, and determine the extent to which available disaster-reduction measures have been taken. Such scenarios would help to focus attention on future priorities and to set targets for national programmes during the Decade. Subsequently, and in selected disaster-vulnerable countries, a methdology could be applied, with support of the United Nations system, to stimulate and enable initial, intermediate and final assessments of the extent to which the Decade's targets are being met throvgh improved and systematic risk assessment and disaster-mitigation programmes. The programmes could include:

(a) Preparation of disaster scenarios for major potential natural hazards in each country so as to establish the gaps, needs and priorities;

(b) Compilation of guides on natural hazard assessment and mapping as well as vulnerability and risk assessment, to bring out the nature and extent of data required, and the needs of monitoring in the future;

(c) Application of successful drought-management strategies and dissemination of suitable examples;

(d) Compilation of simple methods of building construction so as to protect against floods, tropical cyclones and earthquakes, and preparation of do-it-yourself brochures, pamphlets and charts;

(e) Preparation of model training modules, initially using existing material from the United Nations system and other international and regional organizations, for policy makers/planners/disaster managers, which could be adopted by different countries to suit their systems of planning, governance and management.

36. In conclusion, both the limited number of substantive answers received and the general and preliminary nature of most planned activities indicate the pressing need to provide guidance and assistance to the national committees. Therefore, the Committee recommends making available to national committees and focal points consultative facilities at the international level to be drawn on in case of need. Arrangements for such consultative services might be made under the auspices of the Decade secretariat, making extensive use, inter alia, of the experiences and capacities of individual members of the Committee.

IV. OVERALL PROGRAMME

A. Targets

37. The general objective or target of the International Decade for National Disaster Reduction is the reduction of human and economic losses resulting from the occurrence of natural hazards. Post-disaster studies have convincingly demonstrated that certain actions taken prior to the occurrence of a natural hazard are cost-effective to attain this general objective. Thus, one way to assess progress is to evaluate the application of proven loss-reduction practices.

38. The specific targets committee considers that the setting of specific objectives or targets should provide a measure of progress to be used, not just at the mid-term and conclusion of the Decade, but on a regular basis. The responsibility to implement disaster-reduction measures rests largely at the national level; consequently, most of the recommended targets will be national or local targets.

39. Disaster-reduction practices prior to the occurrence of a natural hazard involve three broad areas:

(a) Assessment of risks: an evaluation of the hazards and vulnerabilities and the use of this information in decision-making;

(b) Short- and long-term preventive measures;

(c) Warning: short-term prediction and communication to avert or minimize hazardous impacts.

40. Specific targets to be achieved by the year 2000 are proposed as part of national plans for sustainable development. Clearly, each country will need to select its own targets according to its risk and vulnerability to disasters, level of economic development, and other special characteristics. Targets applicable to a rural country mainly affected by locust infestations and droughts will be distinct from those with large metropolitan areas exposed to the risk of earthquakes.

41. As targets, by the year 2000, all countries, as part of their plan to achieve sustainable development, should have in place:

(a) Comprehensive national assessments of risks from natural hazards, with these assessments taken into account in development plans;

(i) All natural hazards posing a disaster risk should be identified and brought to the attention of decision makers, using standardized methodology, symbols and terminology for risk mapping. Areas should be classified according to their level of exposure to each type of natural disaster;

(b) Mitigation plans at national and/or local levels, involving long-term prevention and preparedness and community awareness;

(i) Legislative authorities at national, state or local level should establish the necessary legal framework for the implementation of mitigation measures, such as land-use planning, water and forest management and building codes. Authorities should keep in mind that laws and codes that are not enforced are of little benefit;

(ii) National, state or local institutions responsible for the planning of general socio-economic development and infrastructure, the private sector and bilateral or multilateral development agencies all should give due consideration to the level of risk to natural hazards at the earlier stages of their decision-making process;

(iii) Cost-effective measures to prevent the occurrence or recurrence of avoidable natural hazards (for example, in the case of floods, landslides, forest fires, etc.) should receive from the national and bilateral or multilateral agencies priority consideration for funding and implementation;

(iv) Academic institutions and professional schools in disciplines such as engineering, agriculture, architecture, planning, business or public administration should include in their curricula locally applicable disaster-reduction concepts and measures;

(v) National, state or provincial, and local authorities should develop, periodically test and update emergency plans to provide preparedness assistance promptly and efficiently in case of natural disasters. The plans based on the more efficient use of resources existing locally should address all types of natural risks present. More emphasis should be placed on the process of interinstitutional dialogue rather than on the document itself: plans that are not familiar to the participants are of no use;

(vi) Medical and other health-related academic institutions or professional schools should provide formal training to the personnel responsible for first response after natural disasters. This academic education will be periodically completed by on-the-job training;

(c) Ready access to global, regional, national and local warning systems and broad dissemination of warnings;

(i) For each type of disaster threat, countries should establish or have access to a warning system to predict or monitor threatening phenomena and disseminate the warning and appropriate information to the population and local authorities. As the objective of the system is to stimulate action to avert or reduce the impact, education of the recipients of this information should be given special attention;

(ii) All children in vulnerable risk areas should receive classes on safety and preparedness measures locally applicable.

42. If substantial progress is achieved towards reaching these ideal targets, the short-term reduction and loss of lives and damages should be significant. In addition, there should potentially be considerable long-term economic benefits that can be directed to more productive activities. Sustainable development, therefore, requires investment in disaster-proofing. However, precise quantified measurement of the short- and long-term benefits resulting from this investment would require additional studies using a standardized methodology yet to be developed.

B. Framework for technical activities

43. The following seven functions or strategies were adopted by the Committee as the basic framework for the overall programme plan.

(a) Identification of hazard zones and hazard assessment

This will entail scientific studies of the potentially destructive natural phenomena to which the country is exposed and will usually be undertaken by academic or governmental scientific institutions. To this end, the collection of important data will be enhanced, as generally the main hazards facing a given country or region are already known.

(b) Vulnerability and risk assessment, cost/benefit analysis

This will depend on the level of preparedness of the country against natural disasters, the hazard resistance of the man-made structures and systems, the experience of the communities with previous occurrence and additional risks. Vulnerability of various elements exposed to hazards should be assessed first. The combination of hazard and vulnerability information provides estimates of expected losses, i.e., risk, which will be used for cost/benefit studies of risk-reduction measures.

(c) Awareness at level of decision and policy makers

This is a key factor in the launching of disaster-reduction measures at local, national and regional levels and will not only depend on the threats of natural hazards and the vulnerability of the communities at risk, but also on the cost/benefit rates of the pre-disaster interventions as compared with the post-disaster relief measures. In fact, the perceptions of the actual risk caused by natural hazards needs to be proportional to the scientific assessment of the vulnerability level of exposed communities. To this end, the national committees will play a special role.

(d) Monitoring, predicting and warning

Monitoring and prediction involve the installation or augmentation of observational networks and will in most cases be undertaken by the same institutions as those concerned with hazard zoning and assessment, such as meteorological, hydrological and seismological agencies. However, the conception and issuance of warnings should necessarily involve the official agencies concerned with the response to warnings (e.g., civil defence agencies). The interface between these groups involves translating scientific terminology into language that can be readily understood by the authorities that have the responsibility for making complex decisions such as evacuation orders and the public. This linkage has been identified as one that requires increased attention.

(e) Long-term preventive measures

This category includes all the long-term or permanent measures that may be taken to reduce the vulnerability of the population and of

structures (housing, industrial plants, urban lifelines, etc.). These may be divided between:

(i) Non-structural measures - Local and national legislation and planning, including land-use planning, is required to provide a sound basis for all other preventive measures.

(ii) Structural measures - These measures include major civil works constructed in most instances by local or national governmental authorities and the application of appropriate building codes and techniques (e.g., earthquake and wind-resistant construction) to be applied in the corresponding hazard zones.

(f) Short-term protective measures and preparedness

In response to the existence of a known hazard and especially in response to predictions or warnings of impending events, much can be done by short-term or temporary protective actions to reduce the vulnerability of people and property.

(g) Early intervention measures

Early intervention in a coordinated, interorganizational effort to modify, alter, suppress or mitigate the damaging effects of natural hazards.

44. Many, perhaps all, of the foregoing seven functions require the support of the following associated activities if they are to be truly effective in reducing the loss of life and damage caused by natural disasters: education and training of local and national specialists; public education and information; transfer of appropriate technology; application of proven technology; and research to develop new technologies and devise new policies.

45. It is also clear that the seven basic functions, with their supporting activities, will be applied, as appropriate, at the local, national, regional and global levels.

46. Thus, in a sense, the framework programme for the Decade involves a three-dimensional matrix, where each functional activity also includes various supporting activities, and where these combined activities may be applied at local to global levels.

47. The functional categories described above provide a framework for organizing projects and activities of the Decade participants. The current and proposed Decade-related activities of the United Nations agencies and non-governmental organizations will be presented in such a structure, and agency responsibilities will be identified. The framework could also be used at the national level, by national committees, focal points or other entities as a basis for organizing their activities. Use of the programme framework by all Decade participants will greatly facilitate presentation and evaluation of programme activities.

C. Criteria for project identification

48. A broad range of activities, including both scientific and technical activities, fall under the auspices of the Decade; however, in order to maintain a focus to the programme, it is essential that clear criteria be established for the projects that are formally endorsed and/or supported in the overall programmes.

49. The first level of consideration for proposed Decade activities is, naturally, whether they address the objective and goals in reducing the impact of disasters. The second level is whether the proposed activities contribute to achieving the specific targets adopted for the Decade.

50. In addition, at the third level, the activities should have as many of the following characteristics as possible:

(a) Should be easily integrated into existing programmes of a country, a National Committee or another international agency, and/or to foster the creation of a national programme for the IDNDR;

(b) Should produce rapidly demonstrable results in the field of scientific knowledge and engineering, allowing the implementation of loss-reduction measures and techniques that could be applied in other countries or regions with respect to other types of natural disaster;

(c) Should assure and accelerate the transfer of technology, increase the capacity for self-reliance of professionals in countries or regions in conducting scientific investigations and foster applications of mitigation techniques;

(d) Should promote and develop prevention and preparedness programmes in the frame of an integrated approach to disaster mitigation.

51. Because the Decade depends on the cooperation of participants for its success, these participants must be convinced that the programme offers an opportunity to make tangible progress towards reducing disaster losses. The best way to convince is to demonstrate that a project can achieve the desired results. Hence, some early positive results for the Decade will be absolutely essential for increasing support and momentum.

D. Projects

52. Projects that fall within the programme framework, that contribute towards the targets and that meet the criteria will be adopted as Decade projects. The Decade secretariat will maintain a register of all such projects that come to its attention. The register will reflect the scope of activities conducted at both the national and international levels in fulfilling the objective and goals of the Decade. The functions or strategies of the programme framework will serve as the basis for classifying projects.

It is anticipated that these projects will be undertaken by national committees and organizations, United Nations agencies, non-governmental organizations, etc.

(a) International demonstration projects

53. Certain projects that exemplify Decade goals and objectives undertaken by organizations of the United Nations system and international scientific and engineering organizations were identified by the Committee as demonstration projects. Projects on some important topics, especially drought and low-cost technologies, were not available to the Committee for identification, so significant projects in these and other fields should be added. Projects also can be identified as demonstration projects by national committees or regional organizations.

54. A list of the international demonstration projects that have been identified by the Committee follows. Funding for some of these projects has been made available by sponsoring institutions, but for others it will have to be sought by their proponents, perhaps assisted by the Committee recognition.

(a) Tropical cyclones

(i) Tropical Cyclone Disasters - International Council of Scientific Unions (ICSU)/World Meteorological Organization (WMO)

This project is intended to lead to a major improvement in the quality of hazard prediction associated with tropical cyclones. It is concerned with data acquisition and research on modelling. It is based on cooperation between WMO and ICSU and can also embrace national research programmes of a related nature. Future plans include scientific meetings in Beijing (October 1992) and the Caribbean (1993).

(ii) Tropical Cyclone Warning System for the South-West Indian Ocean Region - WMO

The project is concerned with methods for data acquisition and investigation of mechanisms of tropical cyclone genesis, evolution and motion. Future plans included a symposium in Beijing in October 1992 and the workshop in the Caribbean in 1993.

(b) Volcano hazards

(i) Reducing Volcanic Disasters in the 1990s - ICSU

The project includes the provision of risk mapping, basic monitoring instrumentation, emergency response plans and hazard awareness programmes for several volcanoes in developing countries. Its potential in reducing fatalities from volcanic activities was

clearly demonstrated at the occasion of the eruption of Mt. Pinatubo, Philippines, where about 80,000 persons were evacuated just before the devastating eruption of 15 June 1991.

(ii) International Mobile Early-Warning System for Volcanic Eruptions - United Nations Educational, Scientific and Cultural Organization (UNESCO)

The objective is to promote further mobile scientific interventions concerning volcanic crises. Some activities towards the establishment of the system are regularly being implemented by UNESCO, generally jointly with WOVO (World Organization of Volcano Observatories). A feasibility study for the system was funded by UNEP.

(c) Earthquake hazards

(i) Earthquake Hazards - ICSU

The ILP (International Lithosphere Program) project, for global seismic hazard assessment will serve as a solid foundation on which local earth scientists will be able to build reliable earthquake risk assessment for each country. It is also of fundamental importance to earth science. Gaps in the availability of information needed are being filled. The world stress map has been completed and the overall project should finish in 1996.

(ii) Earthquake Hazard Disaster Management in the Mediterranean Region (SEISMED) - United Nations Disaster Relief Organization (UNDRO)

In the cooperative project for seismic-risk reduction in the Mediterranean region (16 countries), the first phase will be completed by the end of 1991, yielding technical reports on hazard, vulnerability and mitigation methods applied in the region. The second phase is planned for 1992-1996 and is aimed at pre-disaster management.

(iii) Minimizing Earthquake Vulnerability - International Association of Seismology and Physics of Earth's Interior (IASPEI)

This programme defines a five-year education and research plan for the international seismological community. Principal activities are: preparation of manuals (micro-zonation, hazard and risk assessment, management of prediction, post-earthquake surveys, strong-motion observations), estimation of seismic hazard in different regions, prediction of inter-occurrence times of large earthquakes and investigation of earthquake generation process.

(d) Information systems: (i) Disaster statistics; (ii) Disaster history database; (iii) Database network development; (iv) In-country disaster management information system - UNDRO

These projects build on the existing United Nations International Emergency Network (UNIENET) and aim at creating an interactive electronic network for emergency management and disaster reduction. The system will assure technical means for fast and reliable communication within the disaster-management community, provide access to disaster-related information sources and develop and maintain a limited number of core databases, such as disaster statistics and a historical database. Countries at risk will be assisted to develop their own disaster-related, data-management systems, which can be integrated into the future global network.

(e) Education, research and training

(i) Disaster Management Training Programme - UNDP/UNDRO

The objectives are to improve disaster-management at the country level and to integrate preventive planning into the development process. Policy makers are being encouraged to assess gaps and priorities and to develop suitable programmes and projects.

(ii) Training Materials for Natural Disaster Reduction - UNESCO

The objective is to prepare modules related to training on natural disaster reductions. Its first phase (1991-1992) will focus on earthquakes and floods. Funds-in-trust for this have been received by UNESCO, from the Netherlands and from Denmark. A pre-study of the project is summarized in a strategy report entitled "Training for Disaster Reduction". Training texts are expected at the end of 1991.

(iii) "Roving Seminar" Educational Project: A Feasibility Study for a Pilot Experiment - Union of International Technical Associations (UITA)/World Federation of Engineering Organizations (WFEO)

This project includes a mobile demonstration unit, to meet people "where they live", and convince them that the advances in science and engineering are able to substantially reduce their vulnerability. Three regional projects are now being considered: the Caribbean, the Mediterranean and South East Asia.

(f) Risk assessment and preventive actions

(i) Comprehensive Risk Assessment - WMO

This project promotes a comprehensive approach to the assesment of risks associated with floods, severe storms and earthquakes. It will be initiated by WMO in 1992 in consultation with other international bodies concerned. WMC is providing limited funding, but full implementation will depend on the availability of external funding.

(ii) Design of Structures to Withstand Earthquakes and/or Extreme Winds - UITA/WFEO and Casualties versus Structural Damage - WHO/WFEO/UITA.

An engineering project to define and promote the improved design of structures to withstand earthquakes and/or extreme winds, particularly in developing countries, with very low cost and utilization of local materials.

(iii) System for Technology Exchange for Natural Disasters (STEND) - WMO

The purpose of the project is to identify and facilitate the transfer of technology for use in reducing the impact of natural disasters. Detailed plans for implementation are being drawn up in consultation with other intergovernmental and non-governmental organizations concerned. Once established, this technology-transfer system is expected to operate on a long-term basis.

(iv) Reconditioning of Existing Adobe Housing to Mitigate Earthquake Effects - Regional Centre of Seismology for South America (CERESIS)

Many millions of people throughout the developing world live in adobe housing, which is particularly vulnerable to earthquakes. The objective is to save lives by making sure they have time to escape before building collapse. Reliable, simple, low-cost technology will be developed and disseminated, for "do it yourself" application.

(g) Public health

(i) Strengthening of Health Sector Disaster Preparedness and Management in Indonesia - World Health Organization (WHO)

Preparatory activities have taken place to formulate a comprehensive disaster plan, train the health personnel and set up an information centre. The project document has been completed, approved by the national authorities and submitted to a potential donor.

(ii) Mapping Health Emergency Preparedness and Response in Africa - WHO

Initial steps for the production of community-based, health-risk maps in hazard-prone zones of Africa have been taken by the WHO Pan-African Disaster Preparedness Centre.

(iii) Improved Health Surveillance for more effective Disaster Response - WHO

This project aims to improve the knowledge of health risk and impact of natural disasters.

(iv) Disaster Mitigation in Hospital Facilities in Latin America - WHO

Four preparatory workshops have been held with engineering academic institutions in Brazil, Colombia, Mexico and Venezuela to introduce the topic of safe design of health infrastructure and improve the state of present general education in this field.

(h) International centres for research and training in mitigation of risks, for example, Morocco

An international centre in Morocco, for which a feasibility study would be needed, would collect, organize and interpret data, simulate and model hazards, assess risks and provide training activities.

The Committee notes a proposal from Italy for the establishment of an Emergency Management, Environmental Risk, Technology and Education Centre (EMERTEC) at Tecnopolis CSATA, Bari, based on the transfer of existing scientific and technological capacities in computing research and modelling of environmental hazards, to cover natural hazards as well. EMERTEC will contribute to the implementation of the Morocco international centre.

(i) The physical instability of mega-cities - International Agency of Engineering Geology (IAEG)/International Union of Geological Sciences (IUGS)

The project, submitted by the IAEG on behalf of IUGS and ICSU, concentrates on the physical environment and natural hazards management within urban planning in order to develop strategies for sound, safe and sustainable development. It proposes an integrated multi-disciplinary approach with other specialized organizations (International Union of Geodesy and Geophysics (IUGG), International Geographical Union (IGU), WFEO/UITA), and municipalities and international cooperation for application programmes in mega-cities of developing countries.

V. IMPLEMENTATION OF AN INFORMATION STRATEGY

A. Rationale

55. Significant advances have been made in various fields of science and engineering that can be utilized for the reduction and prevention of disasters. Nevertheless, many of the benefits of these findings remain unutilized due to shortcomings and lack of coordination in identification of sources of information and appropriate transmittal mechanisms.

56. While it is difficult to achieve adequate prior warning for some disasters, it is possible to make reasonable forecasts for most disasters. Nevertheless, thousands of people die either because warnings are not issued

or warnings are not sufficiently credible, particularly as perceived at the community level.

57. Most Governments in developing countries are beset with complex economic problems and competing needs that make priority setting and resource allocation extremely difficult. As a result, low priority is given to disaster prevention and reduction plans. Such compromises need not take place to a large extent if there is adequate coordination in planning and awareness of the importance of disaster prevention for sustainable economic development.

58. Immense resources are spent throughout the world for emergency relief assistance, rehabilitation and recovery programmes. The funding institutions that provide these resources need to be convinced about the cost-effectiveness of disaster prevention programmes, including those related to environmental protection.

B. Objectives

59. In order to address the above-stated needs, four objectives have been identified for the International Decade for Natural Disaster Reduction information strategy:

(a) To facilitate the collection and analysis of existing data and other disaster-related information;

(b) To promote the dissemination of data and knowledge related to disaster-reduction and information derived from data analysis;

(c) To publicize the Decade itself and its aims;

(d) To mobilize support for the Decade's programme.

C. Target audiences

60. To implement the above-stated objectives, target audiences have been identified for each strategy objective: disaster-vulnerable communities; governments in disaster-vulnerable and donor communities; planning agencies; policy-makers at different levels; scientific, technical and other professional groups; funding agencies; non-governmental and intergovernmental organizations; private foundations; disaster-management practitioners; and the media.

D. Methods for information exchange and dissemination

61. IDNDR Newsletter: "Stop disasters" is seen by the Committee as a powerful tool to provide broad coverage of Decade concerns at all levels; to maintain an essential and close link among all Decade partners; and to

effectively promote the Decade. The Newsletter is also a powerful channel of information exchange on new findings and progress of Decade-related issues. The Committee recognizes formally "Stop disasters" as the newsletter of the Decade. It was launched in 1991 and appears bimonthly in four languages. To attain the minimum target of 30,000 copies as foreseen by the Committee and to supplement the contribution of the Italian Government, through the Osservatorio Vesuviano, it is suggested that the newsletter be supported by other public as well as private partners.

62. International Day for Natural Disaster Reduction (second Wednesday of October): To take full advantage of this event, the Committee identified a theme and slogan for 1991, namely the interrelationships between disaster prevention, development and environment. Numerous national activities have been undertaken for the International Day in 1990 and 1991. These activities should be reviewed by the secretariat and shared with the national committees to help them plan future observance of the Day.

63. Media: The active involvement of the media is essential for the achievement of the Decade targets. They should be encouraged to oppose fatalism, raise public awareness on the benefits of integrating disaster-reduction planning in development processes, promote active involvement of communities and motivate policy-makers. In order to guarantee the steady flow of accurate information, national committees should include media experts among their members. Special attention should be paid by scientists, engineers and other participants in the Decade to publicize through the media all new and relevant findings on Decade-related issues. Scientists and planners should use post-disaster opportunities to highlight through the media the value of prevention/mitigation measures.

64. Other information channels and centres: The publication of press releases, brochures, newsletters, posters and notes for speakers on the Decade, and the organization of audio-visual programmes/productions, press briefings, exhibitions and poster, photo and drawing competitions are identified as useful and proven channels of information exchange to promote Decade goals. For maximum dissemination of information, it is essential to make full use of existing channels of communication, both of the United Nations system and of governmental and non-governmental organizations and the private sector. For example, the Department of Public Information of the Secretariat can publicize Decade activities through its publications, television and radio programmes and Information Centres. The coverage and capacity of the United Nations International Emergency Network (UNIENET) operated by UNDRO should be strengthened to provide easy access to information to all Decade partners, particularly national committees. Scientific, technical and other professional journals as well as specialized television and radio programmes can also profile the importance of natural disaster reduction. International conferences and annual International Days focusing on themes related to natural disasters, such as the 1992 United Nations Conference on Environment and Development, to be held in 1992, and World Environment Day, also offer opportunities to advance recognition of the need to incorporate natural disaster reduction in development and environmental protection plans.

E. Supportive actions for information exchange and dissemination

65. Data collection and dissemination capacities should be strengthened at national and regional levels. The existing databases of the United Nations system, as well as of the scientific community, should be utilized for facilitating data collection and dissemination related to natural disaster reduction.

66. There is a clear need for a full-time public information officer in the secretariat with the following major functions: maintaining permanent contact with national committees; acting as a spokesperson for the Decade in relation to the press (he/she should build direct relationships with specialized and general information journalists and organize periodic seminars on Decade issues); establishing an inventory of information material and exhibits related to the Decade.

67. Regional institutions with the capacity to cooperate in the dissemination of Decade information should be identified and where necessary strengthened, for instance by providing information through copy-ready material from the Newsletter in the form of diskettes and film for regional adaptation, reproduction and dissemination.

68. It is expected that the members of the Special High-Level Council, as well as of the Scientific and Technical Committee, will take an active role in disseminating the Decade objectives. The participation of Committee members in conferences and roving seminars which concentrate on their areas of specialization will contribute to the Decade cause.

69. Participation in existing disaster management training programmes should be promoted to address as many trainees as possible during the Decade. Efforts should also be made to introduce Decade issues in existing training programmes of all practitioners. Disaster reduction issues need to be included in school curricula, and relevant educational materials should be produced.

VI. IMPLEMENTATION AT GLOBAL, REGIONAL, NATIONAL AND LOCAL LEVELS

70. The objective of the Decade is to reduce, through concerted national and international action, especially in developing countries, the loss of life, property damage and social and economic disruption caused by natural disasters. The principal goal is to improve the capacity of each country to mitigate the effects of natural disasters with special attention to assisting developing countries in the assessment of risks and in establishing early-warning systems and disaster-resistant structures when and where needed. Such improvement of capacity will also be of use in addressing disasters of an environmental and an industrial nature.

71. Implementing Decade activities will entail action and activities at the local, national, regional and global levels, and will involve all of the actors mentioned above - national committees, the private sector, professional associations, non-governmental organizations, academic and scientific associations and institutions, as well as international governmental organizations. While each entity may have its own independent activities, each action is part of a concerted effort to meet the objective and goals of the Decade.

A. National committees

72. The Specific Target Committee emphasizes the importance of national committees for the Decade, to bring about the cooperation of all parts of a national socio-economic system, including the relevant scientific and technological organizations and planning and economic development sectors, that can contribute to the national disaster-mitigation strategy. The national committees not only have the central role in stimulating national and local disaster-reduction activities, but also can contribute to regional and international undertakings. The key factor is to ensure that disaster reduction is incorporated as a permament element in the development planning process. If this is achieved by the year 2000, it will constitute a great success. An assembly of national committee representatives should be an integral element of the mid-term review of the Decade to take place in 1994, which is called for in General Assembly resolution 44/236; the Committee recommends a World Conference on Natural Disaster Reduction for this purpose.

73. The idea that disaster prevention is too costly for developing countries is without foundation. The Committee found of particular value the results of the Decade national committee survey conducted by WHO/PAHO in preparation for the meeting of Latin American countries that preceded the second session of the Committee. The survey underlined the following points:

(a) In disaster-vulnerable countries, a national system for disaster prevention and preparedness must be created. While most countries have already established committees, an effort is required to provide them with the needed capabilities to perform their functions in a systematic way, leading in the course of the Decade to the development of an autonomous national capacity for disaster mitigation.

(b) Ministries of planning must be included in National Committees, as well as ministries concerned with education and the media, in order to integrate disaster mitigation in the national planning process, achieve an interdisciplinary approach and inform the exposed population of the potential for disaster reduction.

(c) A budget for national committees is certainly needed, but the key to progress in disaster mitigation is to be found in evaluating and taking into account the disaster vulnerability of investments and other expenditures within the development process, which otherwise may lead to an increase of the potential damage of disasters.

74. In view of the above, the Committee recommends that:

(a) National plans and priorities: Nations should take the potential occurrence of natural disasters into consideration in development policies and planning. Reducing disaster impacts should be included in development policies and plans taking into consideration the cost/benefit aspects of various mitigation measures;

(b) Composition of national committees: An inter-disciplinary and inter-agency involvement is essential, involving those responsible for disaster-reduction activities and socio-economic activities both in the public and private sectors;

(c) Role and functions of national committees: National committees should provide guidance to identify national priorities, formulate and implement disaster-mitigation and prevention plans, develop and monitor projects, initiate appropiate legal and regulatory measures through various legislative bodies, as well as provide information and advice to concerned Governments, public services and related organizations and to the general public and private sector as a whole. In addition, the national committee should assist in developing regional and global disaster-reduction plans, projects and training activities.

75. The Committee considered that the following would assist the national committees in their establishment:

(a) Information, including guidelines and case studies, for the setting up of national committees should be made available to countries considering their establishment;

(b) Designated focal points should be encouraged to promote the establishment of a national committee and should be supported through the provision of appropriate information and guidelines;

(c) Assistance should be provided, as needed, in the preparation of national (and regional) disaster prevention or mitigation plans, and legislation;

(d) United Nations Resident Coordinators and disaster-management teams should be used in establishing national committees. To this end, appropriate detailed advice and information should be provided;

(e) Communications with national committees should be strengthened. This could include dissemination of the IDNDR Newsletter, regional and interregional meetings, seminars, etc.;

(f) Maximum advantage should be taken of existing regional organizations and centres;

(g) Lists of persons and organizations interested in Decade activities should be drawn up and made available. An initial list could be drawn up based on information provided by members of the Committee;

(h) Every effort should be made to convene sessions of the Commitee in developing regions. Such sessions would offer the possibility of convening regional meetings of representatives of national committees, as was done in Latin America;

(i) Members of the Committee should, as appropriate, represent Decade interests at conferences, occasions and events in their regions;

(j) The support of the press and the broadcast media should be encouraged and stimulated, and their role in early-warning systems should be emphasized;

(k) The international amateur radio community should be encouraged to take an interest in the activities of the Decade;

(l) National reports being drawn up for submission to the United Nations Conference on Environment and Development should reflect the relevance of disaster-reduction activities to both environmental management and economic development;

(m) Scientific and economic analyses of natural disasters should be encouraged and carried out.

B. United Nations system and other intergovernmental organizations

76. The annex to resolution 44/236, particularly paragraphs 5 to 10 thereof, specifies many ways whereby the United Nations system can contribute to achieving the objective and goals of the Decade. The recent activities of these organizations are described in the main body of this report (A/46/266-E/1991/106). Intergovernmental organizations outside the United Nations system have like contributions to make to Decade activities and their involvement should be solicited and encouraged.

77. Central to the implementation of the Decade objectives at the regional and national levels is political support for technical activities. As an example to that end, the member States of the Organization of American States (OAS), passed a resolution (CP/RES.564, 834/90) on the first International Day for Natural Disaster Reduction declaring OAS activities a contribution to the Decade and calling on member States to integrate natural hazard management and mitigation activities into socio-economic development. Since 1989, OAS has formally made natural hazard management an integral part of development planning technical assistance services. The Committee recognizes those regional intergovernmental organizations that have endorsed the Decade and made natural disaster management an integral part of its technical cooperation services to the countries, and encourages those other organizations to take similar actions.

C. Multilateral and bilateral development institutions

78. The Committee notes with interest the initiatives of the multilateral and bilateral development and financial institutions, especially the World Bank, UNDP and regional development banks, in disaster-related activities. These institutions have traditionally concentrated on responses following disasters and have expanded considerably the resources allocated to these activities. However, they are recognizing increasingly that a shift in resources towards prevention and disaster-mitigation activities is essential. The Committee welcomes this development and encourages its continuation and strengthening.

79. Apart from implementing physical disaster support, some of these institutions are extending assistance and training programmes focusing on disasater mitigation. For instance, the Committee notes the extensive efforts of the World Bank and regional development banks, as well as regional bodies (OAS, European Council, etc.), in serving as resource centres for its constituency by extending regional technical assistance on disaster-mitigation concerns.

80. The Committee appeals to the multilateral and bilateral institutions to expand their respective efforts in the field of disaster mitigation during the Decade. The Committee is convinced that such action, implemented in close cooperation with the developing countries, would make an important contribution to fostering sustainable growth in developing countries that now suffer great economic losses and social disruption from recurrent disasters.

D. International non-governmental organizations

81. There are a number of international non-governmental organizations, such as the League of Red Cross and Red Crescent Socieites, that have not only the interest but also the experience to contribute to and participate in Decade activities.

82. Similarly, several scientific associations, such as the ICSU, and WFEO/UITA, as well as numerous academic scientific institutions or societies, including universities, are in a position to contribute their considerable knowledge and research facilities to relevant Decade activities.

83. The Committee considered in particular that:

(a) Non-governmental aid organizations should be encouraged to participate actively to achieve goals of the Decade. Their efforts at community, national, regional and international levels is essential.

(b) Scientific and academic associations, including those in sociology and psychology, should be encouraged to develop activities and suitable research projects in areas relevant to the objectives and goals of the Decade.

E. Private sector, including insurance and financial institutions, industry and the media

84. Resolution 44/236 encourages private sector involvement in Decade activities, and certainly the motivation exists whether it be professional or commercial. Insurance companies, for example, have a vested interest, since it is they who pay for much of the damage caused by natural disasters. They also have access to considerable historical and statistical data. The construction industry is constantly improving its technology, practices and materials, and their assistance in disaster mitigation is essential. Space technologies can assist in the early identification and warning of potential disaster situations, and have much to contribute to prevention and mitigation measures. Capital investment in disaster prevention and mitigation projects is of interest to the banking and financial institutions. Indeed, there are few sectors that cannot find some relevance to Decade interests and activities.

85. The interest of the media is different in nature: it has a key role to play, whether it be in fostering public awareness or involvement in disaster warning activities.

86. It is desirable therefore that the private sector be fully integrated in Decade activities, perhaps through contacts with national committees or through participation in Decade projects.

APPENDIX I

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APPENDIX II

National programmes and projects

The annex to General Assembly resolution 44/236, which established the International Framework of Action for the International Decade for National Disaster Reduction, states that the Specific Target Committee should develop overall programmes for the Decade taking into account the priorities and gaps in technical knowledge identified at the national level, particularly by national committees. To assist in this process, the Decade secretariat sent letters to national committees and focal points where they had been designated, to UNDP Resident Representatives in countries where such a designation had not been made (with copies of the guidance provided to them in the 1 December 1990 letter from Mr. Joseph), and to the missions to the United Nations at Geneva. The letters requested that the information be provided in the context of the programme framework that was adopted by the Specific Target Committee. A brief summary of the nature of the responses follows.

Angola: Noted their focal point and called attention to provincial-level emergency committees. Cited drought problems.

Australia: "Australia's role in the IDNDR" has been published. Cited investigation of seismic hazards by a multidisciplinary team, development of better flood forecast and warning systems, and research on social factors.

Austria: Cited research programme under way on natural disasters in alpine regions, particularly landslides and crustal deformation associated with earthquakes.

Belgium: Noted their national committee membership.

Bhutan: Noted their focal point and submitted "Study of the causes and consequences of natural disasters and the protection and preservation of the environment" (118 pages), which cited need for improved coordination, databases, research, national expertise, infrastructure and facilities and legislation.

Bolivia: Named national committee and stated plan of work, including evaluation of zones of risk, publication of a national journal on natural disasters, and convening of a conference.

Botswana: Noted need for improved information sources and technical assistance. Will convene meeting on the Decade later.

Canada: Draft of "Toward a Canadian program for the IDNDR" has been received, which summarizes the resources and responsibilities for emergency preparedness and disaster management.

China: New journal "Natural disaster reduction in China" received, which includes several papers describing the broad scope of the Decade programme. Has established a national integrated disasater management centre. Cited need for engineering works to control coastal erosion, floods from storm surges, and for a comprehensive disaster monitoring and warning system.

Czechoslovakia: Cited technology transfer for dealing with environmental risks of hydrometeorological and geologic origin, with application to flood and drought forecasting.

Denmark: Noted their low-risk status and willingness to assist other countries.

Dominican Republic: Cited focal point.

Ecuador: Submitted a five-page plan for risk evaluation; earthquake, volcano, and flood monitoring; and tsunami warning. Also addressed prevention and preparedness measures. Cited need for earthquake and volcanic risk mapping, with delimitation of safe areas for settlement development, an information and awareness campaign, strengthening and seismic and volcanic monitoring networks, preparation of earthquake building codes, and a training programme for local officials.

Egypt: Identified focal point and noted a disaster management conference, two training courses, and plans for a national committee.

Finland: Pointed out their donor and assistance perspective and provided report "Technology for natural disaster prevention available in Finland".

Germany: Published report "Organization and tasks of the German committee to the IDNDR".

Ghana: Noted establishment of national committee.

Indonesia: Undertaking a cross-sectoral survey. Cited improvement of national capacity for disaster mitigation and development of strategies and guidelines for wider application of existing knowledge. Also, need for risk-assessment survey.

Italy: Satellite-based environmental and natural disasters monitoring and control response system (PEACE Project).

Israel: Noted focal point.

Japan: Provided "Basic policy for promoting activities for IDNDR", "Disaster countermeasures in Japan", and "Concluding statement of IDNDR international conference 1990 Japan". Working on "White papers on disaster prevention 1991". Earlier, published "Challenges of the IDNDR", "IDNDR proposals by Japanese scientists", and many other plans by various ministries.

Kenya: Now formulating programme.

Luxembourg: Noted national committee.

Maldives: Named focal point.

Mali: Preparing a plan of emergency and rehabilitation actions, including forecasting, programme development and assessment. Needs early-warning system for drought and its effect on food.

Mozambique: Formed working group, which concluded that consultancy mission was needed to develop a plan to improve flood warnings, telecommunications, emergency plans, training and education and to reduce erosion, evaluate seismic risk and improve coordination.

Netherlands: Provided special compilation evaluating types of hazards, with details on windstorms, floods and blizzards and glazed frost. Also provided a description of "Netherlands storm surge service".

Panama: Named focal point and provided "Plan Nacional de Proteccion Civil".

Paraguay: Committee formed for coordination of actions for prevention and mitigation of disasters.

Philippines: Submitted comprehensive five-page list in the format of the programme framework, giving responsible organizations. Among many items noted were need for computer simulation of flood damage, studies of human response and environmental impact of disasters, vulnerability analysis, specialized training, and strengthening of communications, transportation, stockpiling, and many other activities.

Saudi Arabia: Named national committee, but noted lack of natural disasters.

Spain: Plan will be available by the end of 1991. Expect to establish seismic codes and flood plans.

Sweden: Noted lack of many natural hazards, except landslides.

Switzerland: Selected floods, landslides, avalanches, glacier movement, forest fires and earthquakes for attention. Sectoral groups are developing plans which will be sent later.

Thailand: Submitted a 12-page proposal "Study for draft national and regional disaster plans". Needs improvement of early-warning system for disasters.

Trinidad and Tobago: Cited specific needs for flood hazard maps, earthquake engineering assessments, computer system, weather monitoring, flood warnings and earthquake monitoring. Needs contour maps for flood hazard assessment, earthquake engineer to examine critical facilities, new weather radar, flood-warning system and national strategies.

Turkey: Noted earlier publication "National plan of Turkey 1990-2000" and cited earthquakes, landslides and floods as having highest priority, and need for training in disaster preparedness and management. Needs earthquake hazard assessment and countermeasures. Among numerous activities, plans to upgrade seismic network, update earthquake-resistant building code, evaluate critical structures, and conduct public education programmes.

United States: Submitted list of priorities in the programme framework format identifying areas requiring attention. Reports published earlier on "Reducing disaster's toll" and "Confronting disasters". Draft federal plan is under preparation.

Vanuatu: Noted consultant's report on disaster management and listed main recommendations in programme framework format, including legislation, training, and specific engineering measures. Plans a comprehensive assessment of all potential disaster risks, an awareness campaign. Needs equipment for earthquake and volcano monitoring, cyclone shutters for government buildings, improved river drainage and training programmes.

Viet Nam: Submitted statement by national committee chairman and plan of operations involving monitoring, prevention and preparedness.

Western Samoa: Noted existence of national committee, also reported on responsible organizations in the Cook Islands, Niue and Tokelau. Need increased attention from policy makers to integrate disaster mitigation in national development programmes.

Yugoslavia: Identified four activities: earthquakes and landslides, atmospheric and river disturbances, wild fires and biological hazards. Will send further information later.

Zimbabwe: Submitted plan prepared with UNDRO assistance on "Strenghtening of the Civil Protection Service in Zimbabwe", which identified training and equipment requirements.